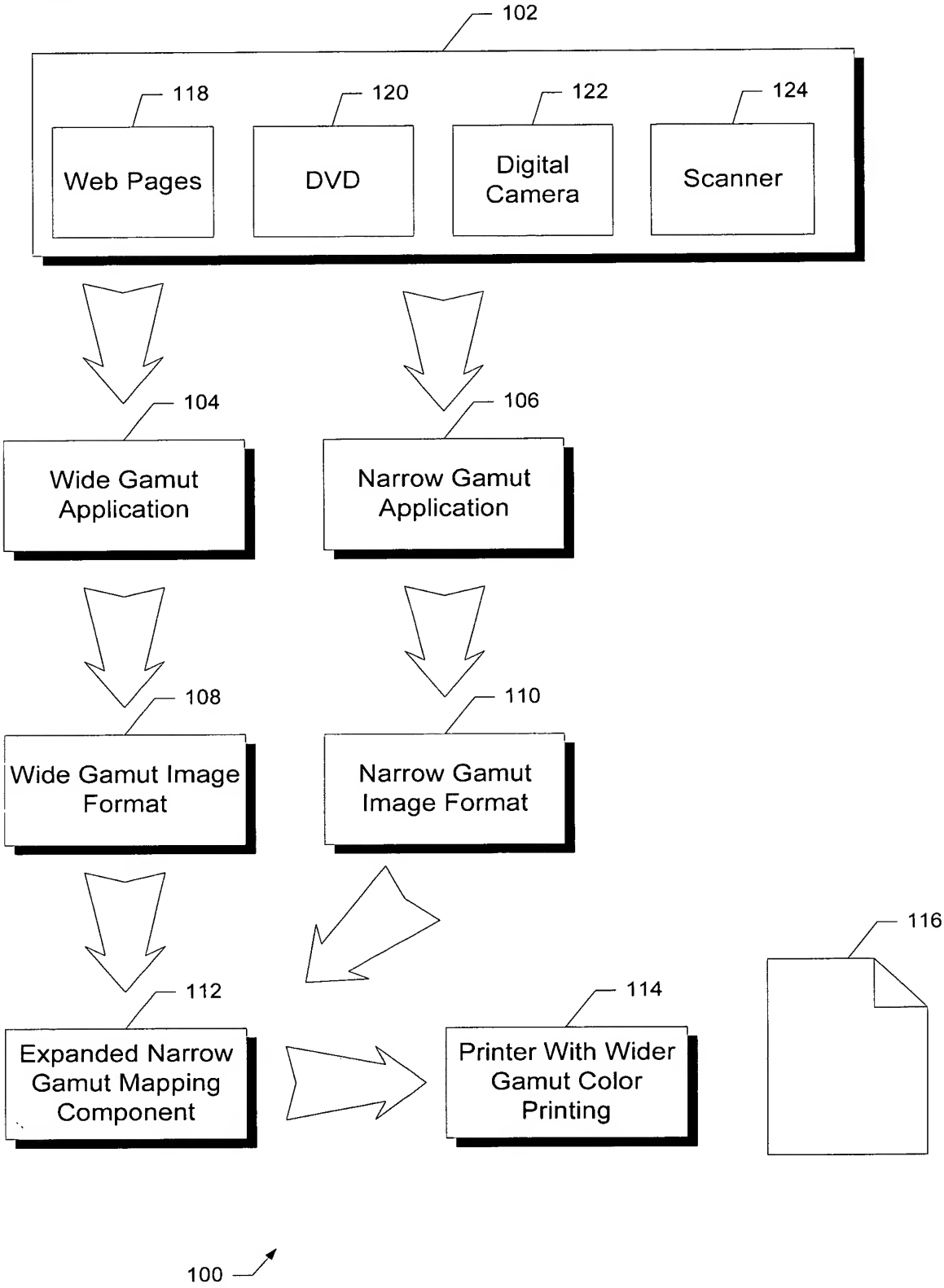
102
118
120
122
124
Web Pages
DVD
Digital Camera
Scanner
104
106
Wide Gamut Application
Narrow Gamut Application
108
110
Wide Gamut Image Format
Narrow Gamut Image Format
116
112
114
Expanded Narrow Gamut Mapping Component
Printer With Wider Gamut Color Printing
100

FIG. 1

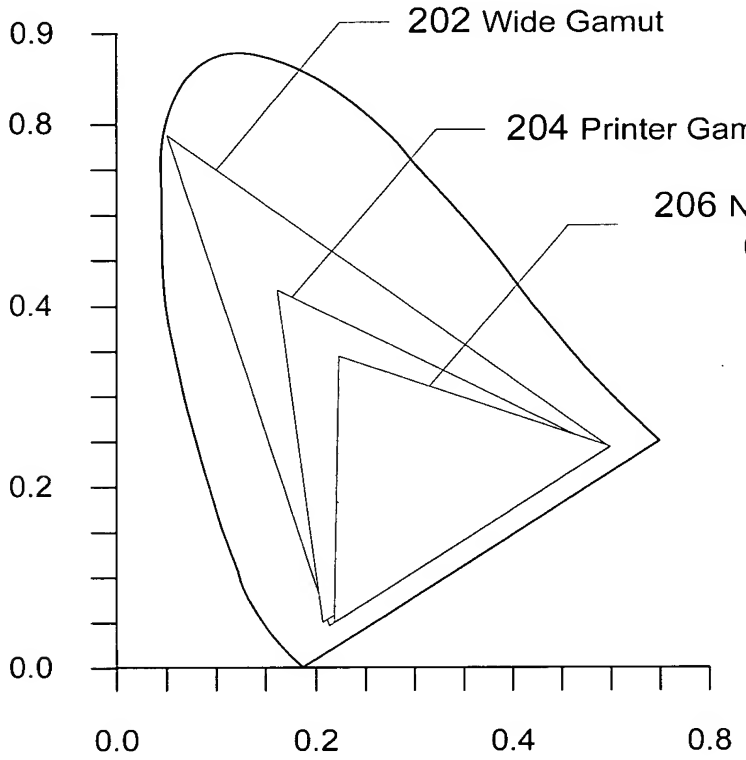
202 Wide Gamut
204 Printer Gamut
206 Narrow Gamut (sRGB)
0.9
0.8
0.4
0.2
0.0
0.0
0.2
0.4
0.8

FIG. 2A

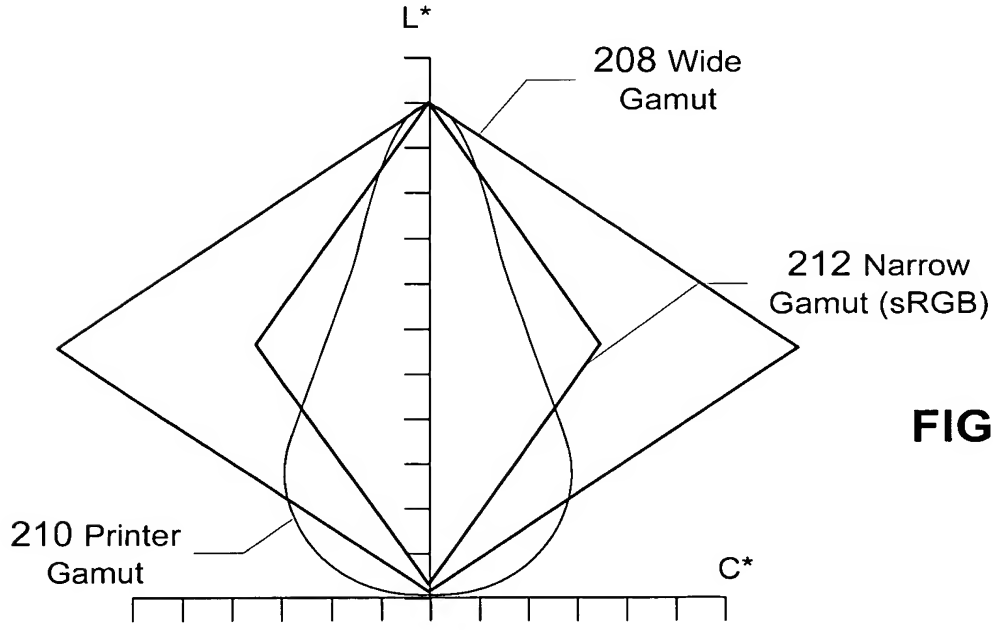
L*
208 Wide Gamut
212 Narrow Gamut (sRGB)
210 Printer Gamut
C*

FIG. 2B

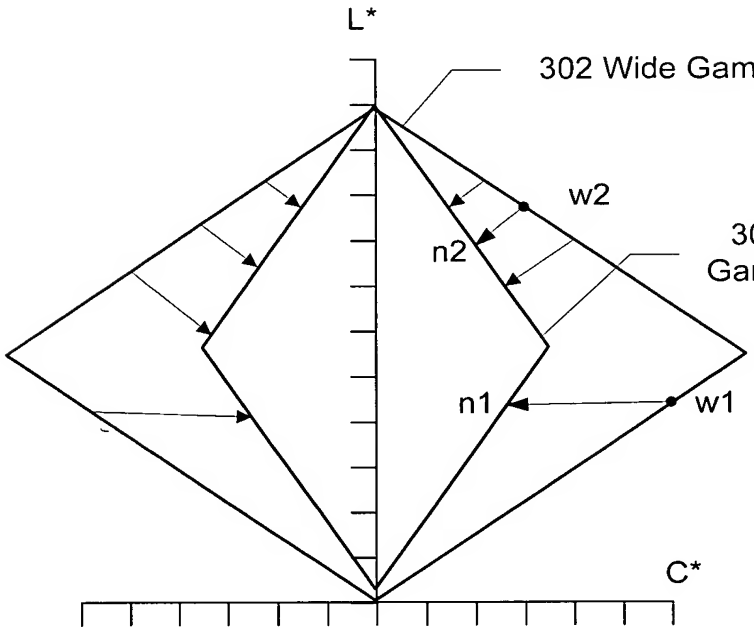
L*
302 Wide Gamut
w2
304 Narrow
Gamut (sRGB)
n2
n1
w1
C*

FIG. 3A

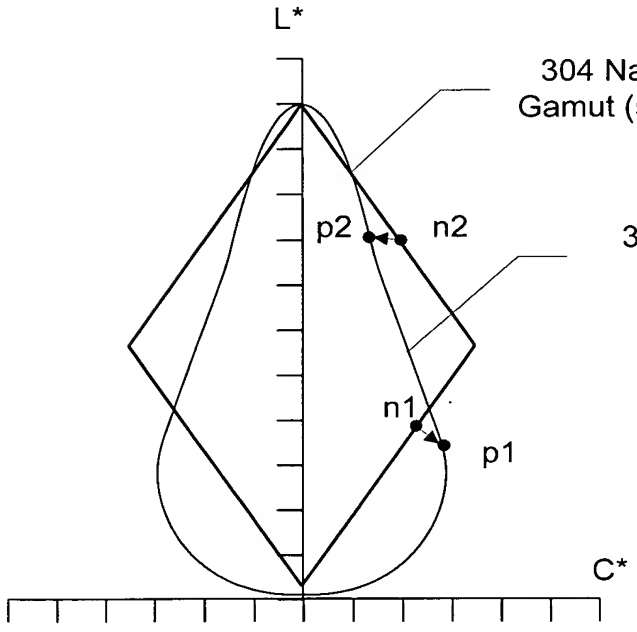
L*
304 Narrow
Gamut (sRGB)
p2
n2
306 Printer
Gamut
n1
p1
C*

FIG. 3B

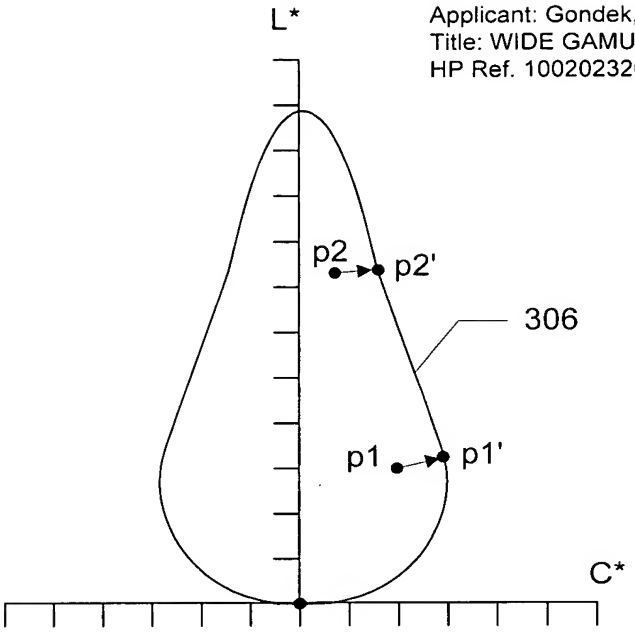

FIG. 3C

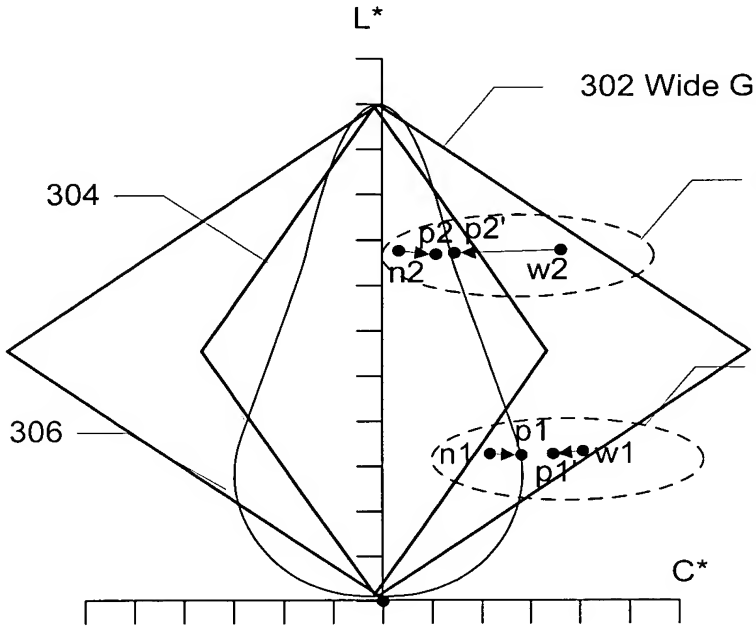

FIG. 3D

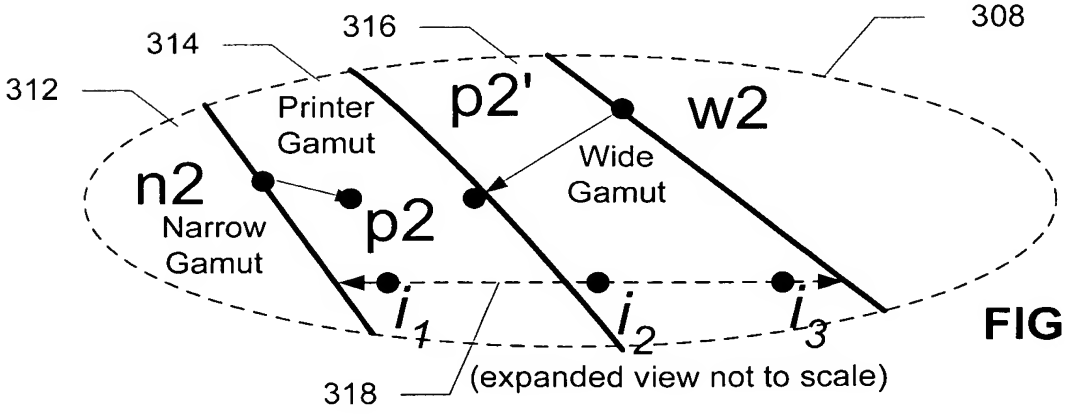

FIG. 3E

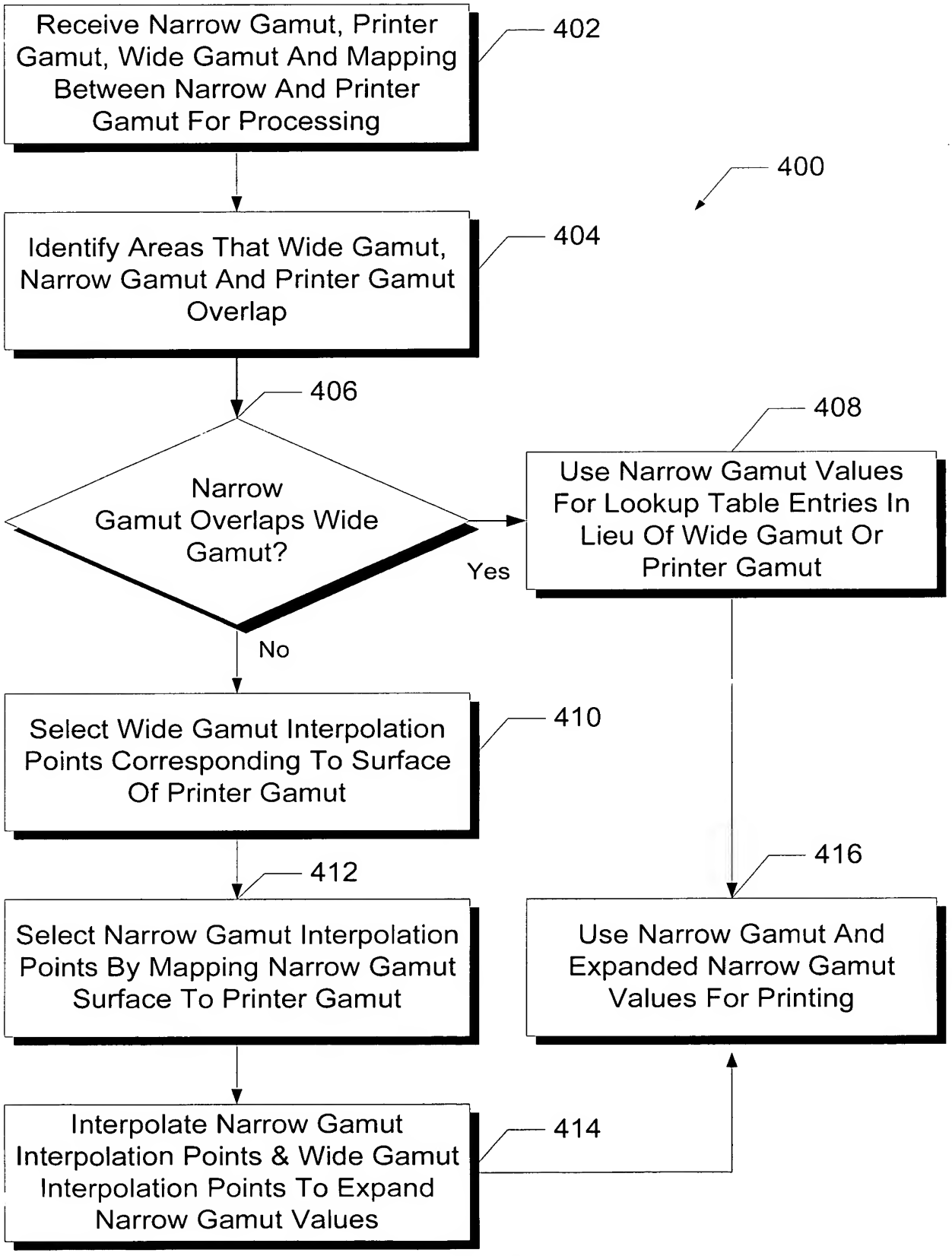
Receive Narrow Gamut, Printer Gamut, Wide Gamut And Mapping Between Narrow And Printer Gamut For Processing
402
400
Identify Areas That Wide Gamut, Narrow Gamut And Printer Gamut Overlap
404
406
Narrow Gamut Overlaps Wide Gamut?
408
Use Narrow Gamut Values For Lookup Table Entries In Lieu Of Wide Gamut Or Printer Gamut
Yes
No
Select Wide Gamut Interpolation Points Corresponding To Surface Of Printer Gamut
410
412
Select Narrow Gamut Interpolation Points By Mapping Narrow Gamut Surface To Printer Gamut
416
Use Narrow Gamut And Expanded Narrow Gamut Values For Printing
Interpolate Narrow Gamut Interpolation Points & Wide Gamut Interpolation Points To Expand Narrow Gamut Values
414

FIG. 4

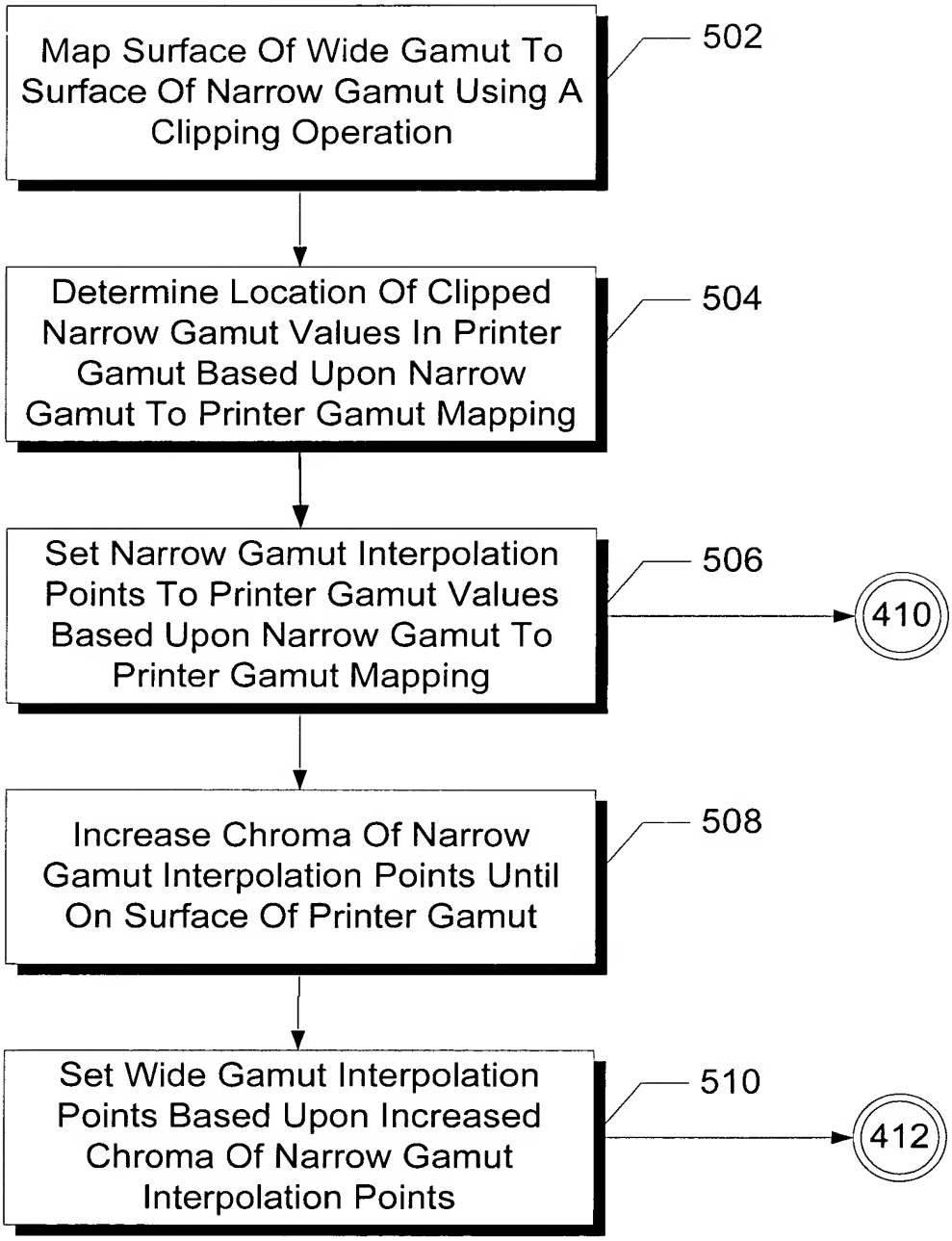
Map Surface Of Wide Gamut To Surface Of Narrow Gamut Using A Clipping Operation
502
Determine Location Of Clipped Narrow Gamut Values In Printer Gamut Based Upon Narrow Gamut To Printer Gamut Mapping
504
Set Narrow Gamut Interpolation Points To Printer Gamut Values Based Upon Narrow Gamut To Printer Gamut Mapping
506
410
Increase Chroma Of Narrow Gamut Interpolation Points Until On Surface Of Printer Gamut
508
Set Wide Gamut Interpolation Points Based Upon Increased Chroma Of Narrow Gamut Interpolation Points
510
412

FIG. 5

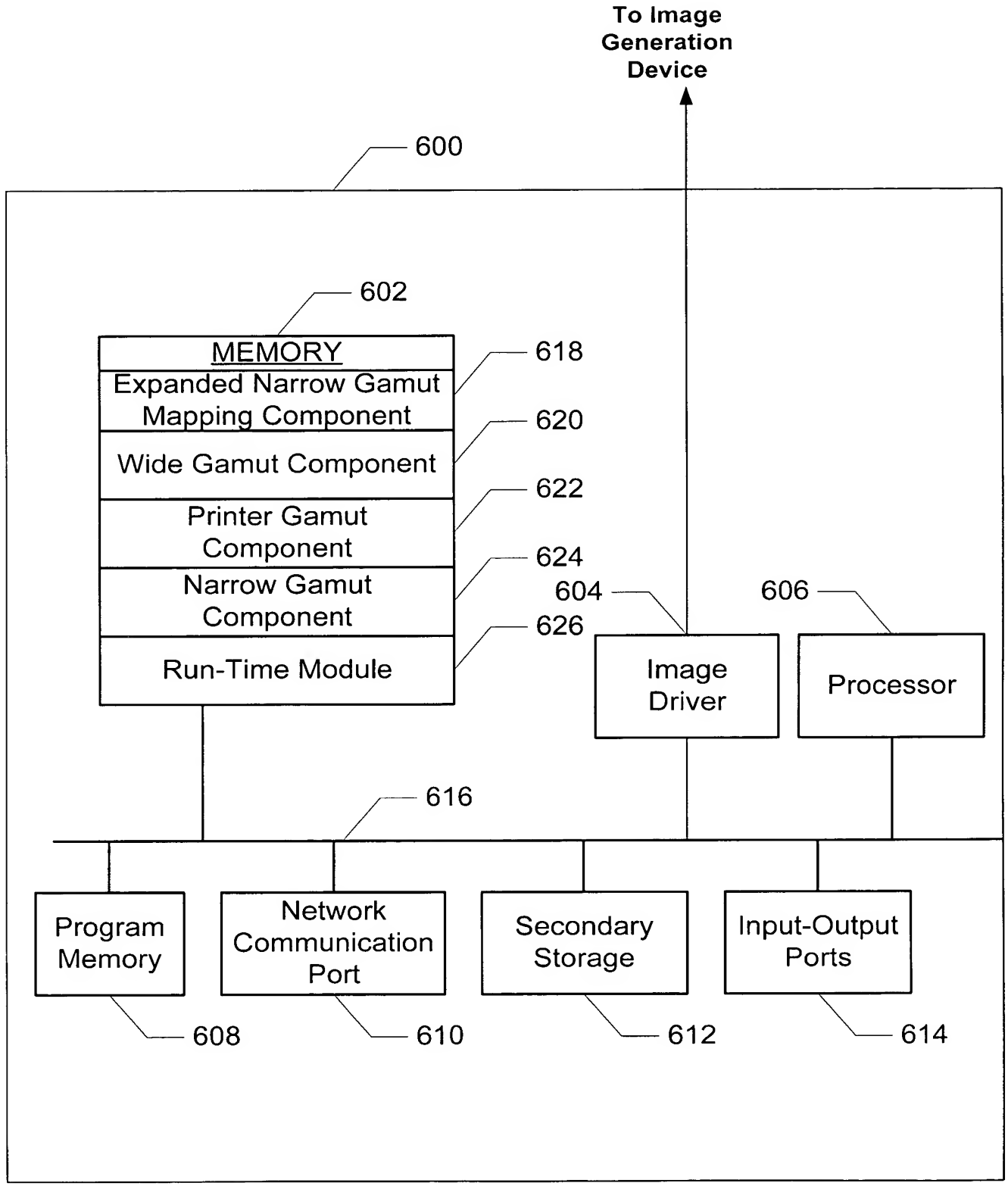
To Image Generation Device
600
602
MEMORY
Expanded Narrow Gamut Mapping Component
Wide Gamut Component
Printer Gamut Component
Narrow Gamut Component
Run-Time Module
618
620
622
624
626
604
606
Image Driver
Processor
616
Program Memory
Network Communication Port
Secondary Storage
Input-Output Ports
608
610
612
614

FIG. 6